

Amendment to the Specification

The disclosure was objected to because of the following informalities:

- a. Page 3, paragraph [0010], line 2, redundant wording. Recommend deleting “**the lack of**” at start of line 2.
- b. Page 10, paragraph [0041], line 3, “location **26**” is listed, but not supported in the drawings.
- c. Page 10, paragraph [0041], lines 3-4, element 26 is used to identify both “location” and “transmitter”. It appears applicant intended – **Transmitter 24** -.
- d. Page 10, paragraph [0042], line 1, “server farm **28**” is listed, but not supported in the drawings.
- e. Page 11, paragraph [0048], line 2, “television 32” should be – television **42** -.
- f. Page 12, paragraph [0052], line 1, “Camera 42” should be – Camera **44** -.
- g. Page 16, paragraph [0067], line 8, “**her**”. Recommend deleting or correcting.

Appropriate correction is required.

The following amendments to the specification are made in order to comply with the objections to the specification made in Office Action mailed 3-28-08, also noted above. Additional corrections have been made in order to apply consistent usage of terms, and to grammatically clarify certain passages. No new matter has been added.

Please replace paragraphs [0031-0032] with the following amended paragraphs:

[0031] With respect to it's wireless side, the box includes a slot which receives what is known in the art as a PCMCIA (Personal Computer Memory Card International Association) Type-II card. PCMCIA Type-II cards are also commonly referred to as "aircards," and are well-known in the art. They are essentially wireless modems used to send and receive ~~[[a]]~~ wireless signals. They typically use a pin-connector ~~system~~ ~~systems~~ and are thus, removeable. They are most commonly used with laptops or handheld devices.

[0032] The PCMCIA Type-II device also includes an antenna ~~antennae~~ through which the digital sending and receiving takes place. In the preferred embodiment of the invention, the wireless networking is done in a Code Division Multiple Access (CDMA) wireless network. This enables the user to receive voice override to IP along with video-on-demand and other related IP features without the need of running a terrestrial line to the house.

Please replace paragraph [0037] with the following amended paragraph:

[0037] The system of the present invention is shown in detail in FIGs. 1 through 3. Referring first to FIG. 1, the set-top box of the present invention may be seen in its working environment, ~~[[a]]~~ as system 10. Included in the system 10 is a CDMA network along with its supporting facilities 11.

Please replace paragraphs [0039-0042] with the following amended paragraphs:

[0039] The CDMA support ~~systems~~ facilities 11 include a transceiver tower 12, a packet network switch 14, a router 16, and an ATM networking device 18. Transceiver tower 12 is used to send and receive wireless microwave radio frequencies which will be accessed by users of the

CDMA network. Packet network switch 14 is used to switch traffic at the core of an IP/MLS network 20 in a manner known to those skilled in the art.

[0040] Router 16 is used to handle the more complex traffic at the periphery of the IP/MLS network core 20. ATM networking device 18 serves to support the ATM protocol functions necessary for the support of the CDMA network.

[0041] System 10 also includes a satellite service providing system 22. Included in provider system 22 is a satellite transmitting device 24. Transmitting device ~~Device~~ 24 is a satellite signal transmitting dish. The provider will be located at a particular provider location 26, e.g., Kansas City. Transmitting device 24 ~~Transmitter 26~~ will be used to deliver ~~delivered~~ satellite programming in the traditional sense.

[0042] Also at location 26, however, is a server farm 28, which is simply one or more video servers. Unlike the satellite providers of the past, providing system ~~provider~~ 22 uses a server farm 28 to deliver video-on-demand services to its customers. Server farm 28~~[[,]]~~ ~~though~~ is shown in FIG. 1 to be in the same location as transmitting device ~~transmitter~~ 24. It could instead be located at some remote location, however. Server farm 28 is simply one or a group of video servers.

Please replace paragraphs [0044-0045] with the following amended paragraphs:

[0044] As used in the system 10 of the present invention, these servers maintain the numerous MPEG's for video on demand which will be delivered to customers. This is done by transmitting a digital signal into an ~~IP/MPLS~~ IP/MLS network core 20 by way of an internet connection 30, or other means.

[0045] On the other satellite side of the satellite ~~provider~~ service providing system 22, satellite programming will be transmitted from ~~dish~~ a satellite transmitting device 24 in an uplink signal 31. Uplink signal ~~Signal~~ 31 will then be bounced off a satellite 32 in a manner known to those skilled in the art. Once uplink signal 31 is bounced off satellite 32 it will rebound off in a downlink signal 33. Downlink signal 33 may be received by any number of subscribers.

Please replace paragraphs [0047-0049] with the following amended paragraphs:

[0047] The present invention also includes a set-top box 34. The set-top box 34 of the present invention is adapted to receive ~~received~~ both satellite and CDMA wireless communications. Referring to FIG. 1 this means set-top box 34 will be adapted to receive downlink signal 33 as well as CDMA signal 35. Because it is satellite and CDMA equipped, set-top box 34 may be located anywhere these signals may be received (almost anywhere) and does not have any “terrestrial” requirements. In other words, it does not need a wired/physical connection in order to deliver the excellent broadcast programming and pay-per-view options available via satellite, but will also provide the benefits of internet, phone, video-on-demand, and other IP-based services.

[0048] Possible accessories that might be used with set-top box 34 are shown in FIG. 2 as set-top box system 40. First, set-top box 34 will normally be physically connected to a television 42 ~~[[32]]~~ in order to display audio/visual content such as broadcasts, movies, video conferencing, internet surfing, and other transmissions. Other than a power cord (not shown), television 42 is the only device which will be connected physically (wired) to set-top box 34. It is of course possible, however, that other devices or the devices shown in FIG. 2 could also be physically

connected and still fall within the scope of the present invention. In the FIG. 2 preferred embodiment, however, they are not.

[0049] Internally, set-top box 34 includes a microcomputer 87~~[[.]] Microcomputer 87~~
~~includes~~ and a PC interface 93 (not shown in FIG. 2, see FIG. 3). PC interface 93 enables
interfacing via a signal with a keyboard 48, a mouse 50, and a camera 44 remotely as shown in
FIG. 2. This remote interfacing with the microcomputer in set-top box 34 may be accomplished
in a number of ways. Here, this is done by employing a WiFi arrangement. These types of short
range networking arrangements are well known, and will be within the knowledge of one skilled
in the art. A WiFi card may be installed in set-top box 34. It communicates with the
microcomputer 87 inside and functions in a manner which will be known to one skilled in the art.
Such arrangements are available over the counter and ~~will be~~ are readily available.

Please replace paragraphs [0051-0072] with the following amended paragraphs:

[0051] Because of the system's ~~systems~~ wireless WiFi capabilities, the user may be
positioned anywhere in the room in which the television 42 exists (possibly anywhere in the
residence) and will not be constrained by any type of physical connection (e.g., wiring).

[0052] Camera 44 ~~[[42]]~~ will be used for video conferencing and other functions known
to those skilled in the art. By directing camera 44 at a user, the user may conduct video
conferencing by speaking into or close to a microphone 45 on said camera 44. It may be
preferable, however, to use a wireless headset (such as a Bluetooth® wireless headset
arrangement which would work in conjunction with the wireless mouse 50 and keyboard 48 in a
manner known to those skilled in the art). Either wireless conferencing arrangement will enable

said user to communicate in real time with other persons who have the same set-top box 34 in their residence as will be discussed hereinafter.

[0053] FIG. 3 shows more specifics regarding the set-top box 34 of the present invention. As already discussed, set-top box 34 has both satellite and wireless features.

[0054] We will first discuss the satellite features. Satellite downlink signal 33 is received by a receiving antenna 60 usually installed somewhere on the user's residence. Usually this type of antenna ~~antennae~~ is dish shaped. Dishes like receiving antenna 60 are commercially available and often times supplied by the service provider for the purpose of receiving satellite audio/video content as well as live programming. The parabolic shape of the dish focuses the satellite downlink signal 33 into a horn which will be used to transmit the signal through a conduit into the residence. Through this conduit, a digital signal 62 is transmitted to a satellite receiving device 64 within set-top box 34.

[0055] Satellite receiving device ~~Receiver~~ 64 will process the digital signal 62 and pass it on so that it may be used by a standard television. Satellite receiving device ~~Receiver~~ 64 has four essential functions.

[0056] First, it will typically descramble an encrypted signal. Satellite signals (e.g. downlink signal 33) are typically transmitted in encrypted format so that other users may not pirate the service from the service provider. Thus, satellite receiving device ~~receiver~~ 64 will likely include a decoder chip provided along with the satellite receiving device ~~receiver~~ 64.

[0057] Second, satellite receiving device ~~receiver~~ 64 will ~~take the digital nature of signal 66 and~~ convert digital signal 62 ~~[[it]]~~ into an analog signal 65. As you will recall from above, most digital signals are in MPEG format. Satellite receiving device 64 ~~Receiver~~ will function to

convert this MPEG into an analog NTSC format. Optionally, the receiving antenna dish 60 and satellite receiving device receiver 64 arrangement may be set up to handle an HDTV signal.

[0058] Third, satellite receiving device receiver 64 performs an extraction of individual channels from the larger satellite signal. In a manner known to those skilled in the art, the user will select a channel on set-top box 34. This third functionality of satellite receiving device receiver 64 (which is well known to those skilled in the art) will take the channel selected and extract it from the bulk digital signal 62.

[0059] Fourth, satellite receiving device receiver 64 will likely perform billing functions, such as keeping track of any pay-per-view accessed by user in the residence which will be communicated to service provider so that the consumer will be charged for the satellite services used. Receiving arrangements such as those disclosed for satellite receiving device receiver 64 are well known to those in the satellite television industry and will fall within that which is known to those skilled in the art.

[0060] Once digital signal 62 has been descrambled, converted, and appropriately extracted[[,]] by satellite receiving device receiver 64, a resulting analog signal 65 will be recognizable by and displayed on a television 42. Before reaching television 42 the signal will be incorporated into a junction 66 and delivered into a cable or television network 68 comprising at least one television 42. Television 42 may thus be used to view satellite broadcasts.

[0061] We will now discuss the wireless side of set-top box device 34. As mentioned above, the wireless network used in the preferred embodiment invention is what is known as a code division multiple access (“CDMA”) network. Other wireless technologies, however, could be used as well. For example wireless technologies such as time division multiple access (“TDMA”), frequency-division multiple access (“FDMA”), wide band CDMA (“W-CDMA”),

global system for mobile communication (“GSM”), or blue tooth could also be used and still fall within the parameters of the present invention. CDMA has been used here in the preferred embodiment, however, because it is the best developed to meet the objectives of the present invention. Wireless ~~signaling 35a~~ ~~signaling 35~~ will occur between set-top box 34 and a transceiver ~~tower station~~ tower 12 (see FIG. 1). Transceiver tower 12, as you will recall, is part of the wireless provider’s ~~support facilities equipment~~ 11 used to create the CDMA network.

[0062] Communications between the transceiver tower 12 and set-top box 34 is made possible using an aircard 72, such as a Type-II PCMCIA card ~~[[72]]~~. PCMCIA aircard 72 taps set-top box 34 into high speed wireless. As already discussed above, such cards have conventionally been used to wirelessly enable laptops and hand helds via an enhanced wireless network, e.g. CDMA. Here, ~~the card~~ aircard 72 is being used to make set-top box 34 CDMA capable.

[0063] Aircard ~~Card~~ 72 is physically connected into set-top box 34 by inserting it into a Type II pin slot (not shown) which is provided on the set-top box 34 ~~device~~. Such a card is able to provide speed, always on access to the internet, e-mail, etc. It also enables the user to receive voluminous packet data through streaming for downloading (or unsaved streaming). Aircards like PCMCIA card 72 have ~~has~~ a built-in antenna. The antenna ~~antennae~~ is capable of both transmitting and receiving. One example of such a card is The PCS Connection Card manufactured and commercially available from Sierra Wireless (also called an AirCard 550). Numerous other examples could also be used that are commercially available and will be known to those skilled in the art.

[0064] Aircard 72 is shown in FIG. 3 as being already inserted into a Type II slot (not pictured) in set-top box 34. Aircard 72 enables interfacing between a microcomputer 87 in set-

top box device 34 with the wireless service provider through wireless signaling 35a ~~messaging~~ 35. Air card 72 also allows the streaming or downloading of audio/video content, e.g. video-on-demand. It will also enable internet access. It should be noted here that the internals of set-top box device 34 may vary significantly and that numerous other computing devices would likely be contained within any such device. These however, would fall within the scope of one skilled in the art and, though omitted here, the addition of these components would likely be evident to one skilled in the art.

[0065] Microcomputer 87 is the brains of set-top box device 34. Like most microcomputers, microcomputer ~~computer~~ 87 includes, at a minimum, a memory component 78 and a processing component 90. Memory component 78 may be used to store movies and other desired data. Alternatively, other memory components could be used which are foreign to microcomputer 87. For example, a separate drive might even be included in set-top box device 34 which would be able to store large numbers of MPEG files. Here, however, for the sake of simplicity a single memory component 78 has been illustrated.

[0066] When video programming is streamed into set-top box 34 via aircard 72, it may be simultaneously viewed, or downloaded into memory component 78 for later use. In order for the digital MPEG to be viewed on a standard television, it must be acted on by a video component 74. Video component ~~Component~~ 74 may be what is referred to as a video card. It takes digital information included in the MPEG and assign it pixels, etc. to develop a moving picture which is viewable on a computer monitor or other like display.

[0067] Computer video is not automatically visible on a standard television, however, because the two have different scanning rates (the rate at which the screens are refreshed). Therefore, a scan converter 77 is necessary to convert the computer scan rate to the television

rate. Scan converters like converter 77 are well known in the art and readily available to be used for the purpose of converting computer video to television video. Scan converter 77 contains both analog and digital circuitry. This circuitry is used to transform the standard digital computer signals into the more domestically usable analog signals. TVs, VCRs, and DVDs all operate on analog. Thus, a scan converter here ~~her~~ is also being used as a decoder, decoding the digital signal introduced into an analog signal 79 which is usable within the residence.

[0068] Analog signal 79 which is received through card 72 over the CDMA network and analog signal 65 which is received from the satellite receiving antenna 60 ~~dish~~, enter into the same information channel. To do so, they are combined into one line of communication by the junction 66, which is also known as a combiner ~~[[66]]~~. This could simply be a T-junction, or perhaps a more sophisticated combining device. This is done so that one outlet can be provided on set-top box 34 which is accessible by a cable/television network 68 which will include at least one television set 42.

[0069] When a user interfaces with the set-top box 34 using the keyboard 48 or mouse 50, that user will be able to view the interfacing which is taking place over television 42 – just as if like it was ~~were~~ a computer monitor. These interactions will occur through a wireless PC interface 93 which is included in set-top box ~~device~~ 34. This interface 93 will communicate with the microcomputer 87 ~~in the device~~ to control the set-top box 34. Interface 93, in the preferred embodiment is a home wireless networking arrangement.

[0070] Camera 44, keyboard 48, and mouse 50 are all included in this wireless network as different devices therein. PC interface 93, in the preferred embodiment, comprises a wireless networking card. These are available in the market. The most common version is an 802.11b wireless networking card. For even faster performance, however, an 802.11g network enabling

card could be used. The setup of networks using cards like this will be readily apparent to and known by one skilled in the art. These kinds of networking arrangements are commonly referred to as “Wi-Fi” local area networks.

[0071] The establishment of such a network enables the interfacing of devices 94, which include camera 44, keyboard 48 and mouse 50 with the computing devices in set-top box 34 via wireless communication 95 ~~without using any wired connection~~. Wi-Fi cards are typically capable of operating at high speeds such that performance will not be impeded.

[0072] Referring now back to FIG. 1 we see that a user with an identical second set-top box 38 in a different or second location 39 may maintain video phone communications with the user at a different location of set-top box 34. For example, the user at the provider location 26 of set-top box 34 may have a friend that resides in second location 39 with which user wants to keep in touch. Video communications would be possible using system 10. This would be possible because each user would have a camera, like camera 44 in FIG. 2, with a wireless connection to each of set-top boxes 34 and 38. They could communicate via wireless IP with one another directly through the wireless support facilities system 11. With respect to the friend's set-top box 38 at location 39, this would occur through a digital wireless signal 36 which would be received through transceiver tower 12 and communicated into support facilities system 11 and then transmitted to user of set-top box 34 via wireless signaling 35a ~~transmission 35~~.